ABSTRACT

BACKGROUND: The influence of the forces exerted by the perioral musculature on the position of teeth has been the object of many scientific studies. Of the forces from soft tissues, those from the tissues in passive resting state are believed to be more important than forces exerted on teeth during various functions such as speech and swallowing.

AIMS AND OBJECTIVES: This study was aimed to quantify the variations occurring in the pressure exerted by upper lip when the upper anterior teeth are retracted towards their average norms of inclination and to find out the ratio between the changes in lip pressure for every millimeter of retraction of maxillary incisors..

METHOD: Lip pressure at rest was recorded in 30 subjects having class I and class II division 1 malocclusion (15 individuals each),using a force resisting sensor, at monthly intervals for five months (T0-T5) during retraction of maxillary anterior teeth towards their planned position and an acceptable nasolabial angle (96.1±9.7degrees).

RESULT: Lip pressure after alignment and leveling stage (T0) was 24.53 gm/cm^2 in class I and 25.62 gm/cm^2 in class II division 1. And there was no significant difference in lip pressure variations between ages and gender. The ratio between lip pressure and change in inclination of maxillary anterior teeth is greater in class II division 1 (1:3.248) than in class I (1:3.066) and the lip pressure reduces gradually in both the groups during retraction. Every millimeter of maxillary incisor retraction, the mean reduction in lip pressure was 3.066 g/cm^2 and 3.248 g/cm^2 in class I and class II division 1 subjects respectively.

CONCLUSION: Lip pressure reduces gradually in class I and class II division 1 conditions during retraction and the subjects with class II division 1 malocclusion had greater lip pressure than class I. There was no significant difference in lip pressure variations between ages and gender. The lip pressure at rest after alignment and leveling stage was 24.53 gm/cm^2 in class I and 25.62 gm/cm^2 in class II div 1 and the ratio between lip pressure and change in inclination of maxillary anterior teeth was 1: 3.248 in class II division 1 cases and 1: 3.066 in class I cases.

Key words: lip pressure, force sensor, class II Malocclusion, maxillary incisors